

Chapter 6. Land Use and Aesthetics

Environmental Setting

Regional Settings

Typical regional settings for the evaluation of land use and aesthetic impacts are described below. These particular regions are described because land application of biosolids will most often be proposed under the GO in settings similar to these. The presentation of these descriptions is not intended to preclude the applicability of impact analyses to other regions of the state, however. Figure 6-1 depicts the regions discussed.

Central Valley

The Central Valley encompasses approximately 60,000 square miles extending from Kern County in the south to Shasta County in the north (Jensen pers. comm.). More than 90% of the land area of the flatter, lower elevation portions of the valley consist of irrigated agricultural land. The total population of the Central Valley is approximately 7 million people; most of that population is concentrated along State Route 99 from Bakersfield to Sacramento and along Interstate 5 and State Route 99 north of the Sacramento urban area (California Department of Finance 1998). Agricultural development in the southern portion of the valley varies from small farms in the east to enterprises of several thousand acres in the west; in the central and northern portions of the valley, agricultural operations are mostly small and medium sized.

Lahontan

This area encompasses the southern Sierra Nevada and the high desert of California. It is, in general, sparsely populated compared with many other portions of the state. The major population centers are the Lancaster/Palmdale urban area and the Victorville area. Smaller urban developments include Ridgecrest and Barstow.

The region is physically dominated by the eastern slopes of the southern Sierra Nevada and the White Mountains. Smaller ranges are interspersed throughout the region. The western portions of the region are in agricultural use, principally irrigated agriculture. In

the Antelope Valley, north of Lancaster/Palmdale, scattered rural residential development has occurred.

Southeast

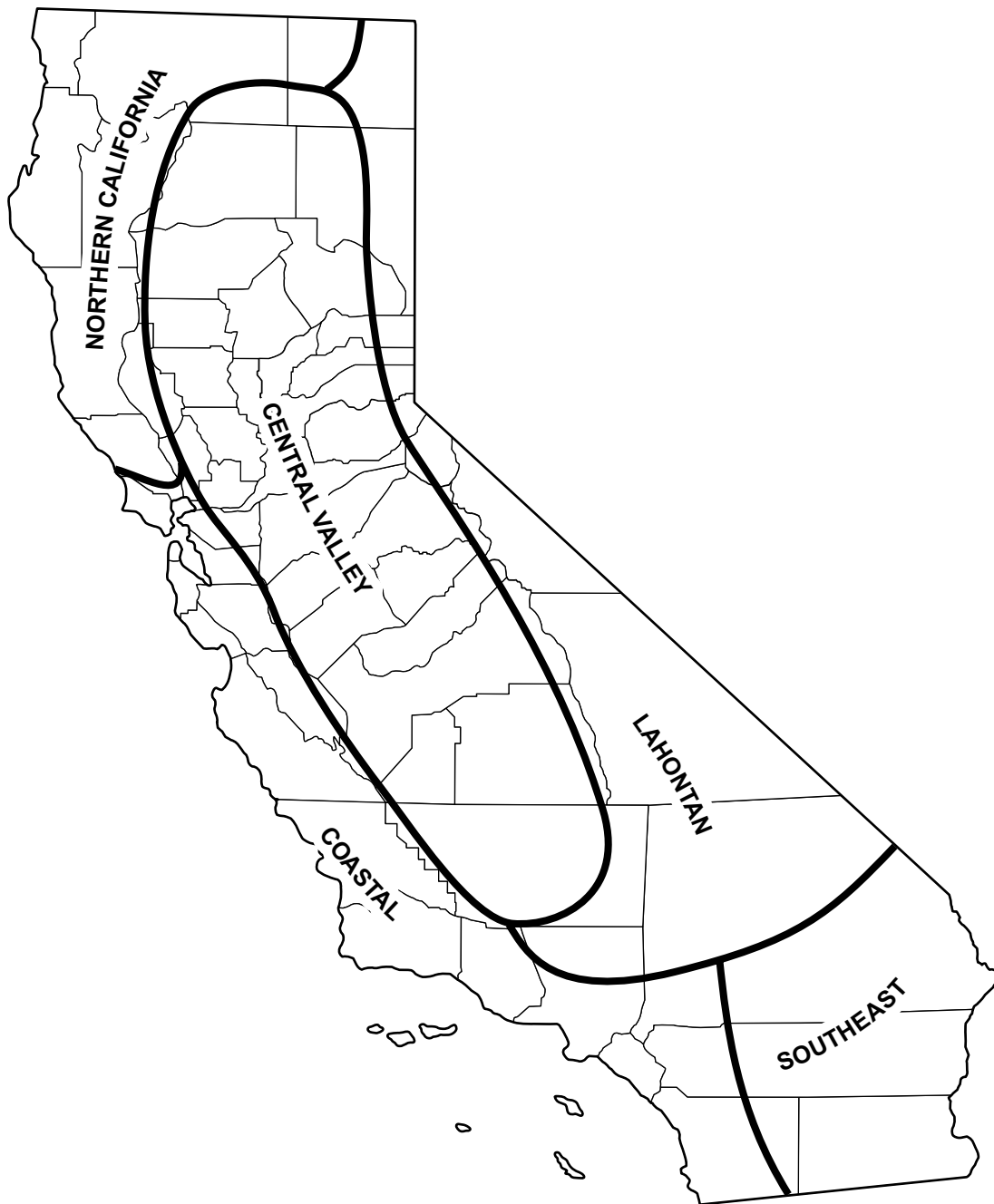
For purposes of this analysis, the southeast portion of the state is defined as the eastern, non-urbanized slopes of the Coast Ranges and the San Jacinto mountains, the undeveloped areas of the Perris Valley, the Coachella Valley, and the low desert extending to the Colorado River. Where irrigation water is available, intensive agricultural development has occurred. Population is concentrated in the Beaumont-Banning-Palm Springs-Indio corridor, in the Perris Valley-Hemet-Perris-Lake Elsinore area, and at El Centro/Brawley.

Northern California

This area is defined for purposes of this analysis as the Cascade Range, the Coast Ranges, and the intervening small valleys north of the San Francisco Bay/Delta, not including the Central Valley itself. The valleys in the southern portion of the region are partially to largely urbanized. The principal silviculture operations in the state are conducted in the region's mountains. Agricultural development in the region's valleys, including extensive viticultural development, is generally undertaken on smaller parcels than in the rest of the state. Cattle grazing operations dominate the non-irrigated foothill areas of the region.

Coastal

The "coastal" region of the state is defined, for purposes of this analysis, as the Coast Ranges from the northern San Francisco Bay area to the Mexican border, the Transverse Ranges of Southern California, San Francisco Bay and the San Francisco Bay/Sacramento-San Joaquin River Delta (Bay-Delta) region, and the coastal valleys and watersheds. This area includes 80% of the state's population. Urban development occupies most of the region that is not mountainous. Agricultural operations, other than grazing in the foothills, typically are concentrated in small viticultural, dairy, truck garden and horticultural enterprises, rather than the several-thousand-acre holdings common in much of the Central Valley and in the Southeast and Lahontan regions.



Physical Setting

Agriculture

Physical settings may vary widely with respect to agricultural site. Such physical setting variables may include, but are not limited to:

- g distances to nearby residences;
- g distances to sensitive receptors such as recreation or assembly areas, high-traffic streets or roads, restaurants, hospitals, and schools;
- g prevailing wind conditions; and
- g available access routes and near-site development along such routes.

Typical agricultural sites are level areas with relatively large landholdings that are remote from urban centers. The types of crops commonly grown on agricultural biosolids disposal sites are row crops that are not typically used for human or dairy animal consumption. Sites are generally reached by county roads with low traffic volumes. The visual impact of such sites is limited, and because they are located away from urban centers and major highways, most people are unaware of their status as biosolids disposal sites.

Silviculture

Physical variables for forested lands are similar to those for agricultural operations. Biosolids would typically be applied as a soil amendment between rows of maturing trees in a commercial tree farm. With respect to silvicultural applications, slope considerations may affect the discharger's approach to preventing potential runoff onto adjacent parcels, including parcels with recreational or residential/urban land uses. Typical silvicultural sites are unlikely to be located on small landholdings or near urban centers.

Horticulture

Physical variables for horticultural uses are similar to those for agricultural operations. Such variables are of increased concern because of the possibility that horticultural use of biosolids may occur on sites in relatively urbanized areas. Horticultural sites are often located in transitional areas or on parcels that have been temporarily passed over during

the urban expansion process. Slopes are typically gentle to almost flat. Residential uses, including numerous farmsteads, may be present nearby.

Land Reclamation

The physical setting for land reclamation could include landfills and mining reclamation sites. These operations are likely to occur in rural areas rather than in urban settings because landfills and mining operations are typically not compatible with urban environments.

Regulatory Setting

Current regulations pertaining to land use/aesthetics and land application of biosolids in California are contained in the ordinances adopted, or under consideration, by 17 of the state's 58 counties and in the site-specific WDRs that have been adopted by RWQCBs.

County Land Use Regulations and Ordinances

The land use and aesthetics regulations in county ordinances vary widely. Table 6-1 summarizes portions of these ordinances that are related to land use and aesthetics. Such ordinances typically contain the following specifications:

- g minimum distances from biosolids application areas to occupied residences,
- g minimum distances from biosolids application areas to property lines, and
- g maximum wind velocities for application.

Site-Specific Waste Discharge Requirements

The land use and aesthetics provisions of typical site-specific WDRs, such as those of county ordinances and regulations, vary widely. The following sample provisions for land application of biosolids are from the WDRs for Pima Gro Systems, Inc., and Jerry Menefee, Merced County (Central Valley Region):

- g sludge cannot be stockpiled or stored onsite,
- g sludge cannot be applied within 25 feet of property lines,

Table 6-1.

**Representative County Ordinance Conditions Pertaining to
Land Use or Aesthetic Issues and Land Application of Biosolids**

County	Minimum Distance to Nearest Residence (in feet)	Minimum Distance to Property Line (in feet)	Maximum Wind Velocities for Application (in mph)	Dust Restrictions	Maximum Storage Time on Site	Other
Kern	500 ^a	50	39	Yes	—	
Merced	—	25	20	Yes	24 hours	
Riverside	—	—	—	—	24 hours	
San Bernardino	500 ^a	—	—	—	—	
San Joaquin	—	—	—	—	—	Prohibits biosolids applications in unincorporated areas of the county.
Solano	500	50	20	—	7 days	Prohibits “nuisance”. Prohibits applications inconsistent with the Delta Protection Commission’s Land Use & Resource Management Plan for the Primary Delta Zone.
Stanislaus	—	—	—	—	—	Prohibits biosolids application.
Sutter	—	—	—	—	—	Prohibits biosolids applications in unincorporated areas of the county.
Tulare	500	25	20	Yes	24 hours ^b	Prohibited in or within 660 feet of areas designated as Urban Land Use areas.
Yolo	500	25	5	Yes	48 hr	Draft ordinance prohibits application in Primary Delta Zone.

^a Owner residence excepted.

^b Can be extended for good cause by agricultural commissioner.

- g sludge cannot be applied within 500 feet of domestic water supply wells or occupied dwellings, and
- g sludge cannot be applied within 50 feet of public roads.

Federal Part 503 Regulations

Part 503 regulations include provisions for the reduction of vector attraction (i.e., characteristics of sewage sludge that attract rodents, flies, mosquitos, or other organisms capable of transporting infectious agents) and setbacks from different land uses. Additional information on the Part 503 regulations is included in Chapter 2 and Appendix C.

Impacts and Mitigation Measures

Approach and Methods

Because biosolids application is ongoing in California, a considerable amount of information exists concerning the activity, its implications, and the public's reaction to present practices. The analysis of impacts on land use and aesthetic issues involved a review of current biosolids application practices and a review of WDRs for existing sites to identify the types of mitigation measures already in use. The GO and Part 503 regulations also were reviewed to identify the types of land use and aesthetic concerns addressed by the existing regulations. In addition, local ordinances regulating biosolids application were gathered, and land use and aesthetic concerns addressed in those ordinances were identified so that local concerns and responses could be assessed. Factors that could affect impact significance also were considered, including:

- g distances to nearby residences;
- g distances to other sensitive receptors, such as recreation or assembly areas, high-traffic streets or roads, restaurants, hospitals, and schools;
- g prevailing wind conditions; and
- g available access routes and near-site development along such routes.

Thresholds of Significance

Based on the State CEQA Guidelines and professional judgment, it was determined that implementation of the GO would result in a significant impact on land use and aesthetics if it would:

- g** conflict with local land use plans and ordinances;
- g** conflict with established land uses;
- g** substantially degrade visual quality in adjacent areas;
- g** result in objectionable odors, an increase in insects, or dust of biosolids origin in urban areas or at residences adjacent to the disposal site; or
- g** frequently result in spillage of biosolids on public roads for long periods of time or in large quantities.

Impacts of Agricultural Use

Land Use

Impact: Application of Biosolids in a Manner And/or in Locations in Conflict with Local Land Use Plans and Ordinances, Including Future Planned Land Uses

Several counties have adopted ordinances that specify locations and applicable setbacks for land application of biosolids. In addition, local land use plans designate areas for future growth. As that growth occurs, conflicts may develop between land applications and urbanizing areas. However, the GO states that it does not preempt or supersede the authority of local agencies to prohibit, restrict, or control the use of biosolids subject to those agencies' control, and the GO requires the discharger to obtain any necessary local governmental agency permits or authorizations prior to the application of biosolids at each application site. Therefore, this impact is considered less than significant because the GO would not conflict with any local land use plans or ordinances.

Mitigation Measures. No mitigation is required.

Impact: Application of Class B Biosolids at Locations That May Conflict with Existing Land Uses in Urban Areas; Recreation Areas; or Other Sensitive Areas, Including Schools, Hospitals, and Recreation/public Assembly Areas

The GO currently contains specifications, exclusions, and prohibitions designed to minimize conflicts with land uses adjacent to application sites. For example, it specifies areas of the state identified as “unique and valuable public resources” that are not regulated by the GO and for which site-specific permits would be required; it requires compliance with the provisions of Part 503 regulations regarding the land application of biosolids that meet provisions for vector reduction; it prohibits the dissemination from application sites of visible airborne biosolids particles; it stipulates the use of tillage procedures that minimize wind erosion; and it prohibits application within 500 feet of residential buildings. However, the GO does not include setbacks from facilities for recreation activities; places of public assembly; hospitals; or other sensitive receptors that could be included under the definition of “populated areas” provided under “High Potential for Public Exposure Areas” in the definitions section of the GO. (The application of Class A biosolids would not conflict with these potential adjacent land uses because Class A biosolids have been treated to meet more stringent pathogen reduction standards than Class B biosolids.) The application of Class B biosolids near these sensitive receptors could conflict with the land use (i.e., activities could be disturbed as a result of increased noise, traffic, etc.) This impact is considered potentially significant. To reduce this impact to a less-than-significant level, the SWRCB shall implement Mitigation Measure 6.1.

Mitigation 6-1: Require setbacks from areas defined as having a high potential for public exposure. The GO will be modified to state that:

- (a) no application of Class B biosolids shall be permitted within an area defined in the GO as having a high potential for public exposure unless the biosolids are injected into the soil and
- (b) educational facilities; facilities designated for recreation activities other than hunting, fishing, or wildlife conservation; places of public assembly; hospitals; or similar sensitive receptors shall be included in the definition of “populated area” as used in conjunction with the designation “High Potential for Public Exposure Areas.”

Aesthetics

Impact: Reduced Visual Quality Resulting from Truck Transport of Biosolids Through Residential And/or Recreational Areas

If land application projects are approved under the GO, biosolids haulers may use roadways that traverse residential and/or recreational areas, resulting in the potential for reduced visual quality because of the potential increase in noise, dust, and traffic (see Chapter 11 for a discussion of noise impacts). This impact is considered significant. However, this impact is reduced to a less-than-significant level with the implementation of Mitigation Measures 10-2 (Control Fugitive Dust from Unpaved Roads) and 11-1 (Avoid the Use of Haul Routes near Residential Lands) included in the noise and air quality chapters.

Impact: Reduced Visual Quality Resulting From Land Application Activities Adjacent to Schools, Hospitals, or Recreation/public Assembly Areas

Land application projects approved under the GO could be conducted adjacent to schools, hospitals, or recreation and public assembly areas as long as the application site is set back 50 feet from roadways and 500 feet from non-agricultural buildings. Sites that would receive biosolids generally have previously been used for agriculture; however, it is possible for land application sites to be located near these sensitive receptors. This impact is considered less than significant because of the setbacks included in the GO and with the implementation of Mitigation Measure 10-2 (Control fugitive dust from unpaved roads).

Impact: Reduced Visual Quality Resulting from Spillage of Biosolids on Public Roads

Although the GO includes provisions requiring biosolids to be transported in leak-proof and covered trucks, there are no requirements for proper washdown, loading, and maintenance of transport vehicles. Therefore, if biosolids are loaded onto vehicles in a manner that results in their adhering to the outside or tires of the vehicle, they could be spilled on the roadways, resulting in a reduction in visual quality. This impact is considered significant. To reduce this impact to a less-than-significant level, the SWRCB shall implement Mitigation Measure 6-2.

Mitigation Measure 6-2: Require the Maintenance of Biosolids Transport Trucks after Biosolids Are Loaded in the Trucks. The GO will be modified to stipulate that dischargers ensure that any biosolids adhering to the outside of biosolids transport trucks and tires be removed before trucks leave the dischargers' sites or application

areas. Implementation of this mitigation measure will prevent biosolids from being spilled in roadways.

Impacts of Other Activities

Horticultural Use

The use of biosolids for horticultural purposes would result in generally greater impacts on land use and aesthetics as those described above under “Agricultural Use” because biosolids could be transported through or used adjacent to areas where recreation or sensitive receptors are present. However, Mitigation Measure 6-1, described above; and Mitigation Measures 10-2 and 11-1, described in the Air Quality and Noise chapters, would reduce this potential impact to a less than significant level.

Silvicultural Use

The use of biosolids for silvicultural purposes would result in generally greater impacts on land use and aesthetics as those described above under “Agricultural Use” because biosolids could be transported through or used adjacent to areas where recreation or sensitive receptors are present. However, Mitigation Measure 6-1, described above; and Mitigation Measures 10-2 and 11-1, described in the Air Quality and Noise chapters, would reduce this potential impact to a less-than-significant level.

Land Reclamation

The use of biosolids for land reclamation would result in generally greater impacts on land use and aesthetics as those described above under “Agricultural Use” because biosolids could be transported through or used adjacent to areas where recreation or sensitive receptors are present. However, Mitigation Measure 6-1, described above, and Mitigation Measures 10-2 and 11-1, described in the Air Quality and Noise chapters, would reduce this potential impact to a less-than-significant level.